

RURAL PASTIMES.



How oft the village train, from labour free,
Led up their sports beneath the spreading tree,
While many a pastime circled in the shade,
The young contending as the old survey'd;
And still, as each repeated pleasure tir'd,
Succeeding sports the mirthful band inspir'd.



TOMB OF WASHINGTON.

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Special & General Anatomy Septem 5th

Introduction

Science of Anatomy divided into Descriptive & General

Descriptive anatomy teaches the exterior form of organs, their magnitude, their position, their connections with adjacent parts, & their intimate texture or organization.

Special anatomy substituted in its place. 18

Whole body is formed of Solids & Fluids. Former consist of fibres of lamina & of molecules.

Restriction is the 1st want of every being. Sensation is derived from the nervous system. Sense of touch is the most important of all & the least liable to error in its reports. Sense of touch is enjoyed by all parts of surface of body. Our ideas of heat & cold are also derived from this source.

Life consists in the aggregate of those functions by which death is resisted.

29: 29

Each of these lives has 2 orders of functions. Circulation is the connecting link of the 2 orders of functions in organic life, as the brain is the connecting link of the 2 orders of functions in animal life.

Book 1. Part 1.

On the Anatomy of the Skeleton

Skeleton is the bony frame work of human body.

Regional division of Skeleton is into Head, Trunk, Superior & Inferior. {extremities

Chapter 1 Of Bones generally

Section 1 - Number & texture. 56 bones to trunk of body / 22 to head os hyoides 68 to ^{the 2} upper limbs, 64 to the 2 lower limbs = 211

The bones present on their periphery eminences & cavities a proper knowledge of which is of the greatest importance to surgeon. Former are called apophyses or processes. They serve for the origin & insertion of muscles & for furnishing articular surfaces.

Articular ends of long bones are called epiphyses from their being formed from distinct joints, whereas the shaft of the bone is its diaphysis or body. Substance of bones divided into compact & cellular.

Text 2. Composition of bones

They are constituted principally of an animal & an earthy substance. The immersion of a bone in diluted muriatic acid is the best method to separate the two parts.

Chapter 2nd Section 1. - of the Periosteum the membrane which surrounds the bone. Organization of periosteum is fibrous. It receives the insertion of tendons & ligaments & of the aponeurosis.
Section 2. - of the Medulla & its membrane called the internal periosteum. Medulla or marrow is a greasy substance. It is contained in a very fine cellular & vascular membrane lining the internal cavities of the bone.

Chapter 3rd On Osteogeny
sect 1 - of the development of the Bones
From early embryo state to the completion of the skeleton 3 stages are observable in the progress of ossification. The 1st is mucous or pulpy 2nd cartilaginous & the 3rd osseous.
Sect 2 - On the Manner in which bones grow. This is effected by the successive addition of new matter to the old.
Sect 3 on the Formation of Callus
All the blood vessels (from whatever source they come) which penetrate the organized coagula lymph secreted between the fractured extremities convey & deposit calcareous matter.

Book 1. Part 2nd Of the bones individually.

Chapter 1 The Trunk constituted by spine thorax & pelvis

Sect 1 - Spine placed at posterior part of trunk

Consists of 28 or 9 distinct pieces. General Characters of a vertebra
& vertebra consists in a body 7 processes & in a hollow part lodging spinal marrow.
Of Cervical vertebra Generally. Their bodies & processes are small but spinal foramen is large. Spinous process is short triangular nearly horizontal & bifurcated at its posterior extremity. The transverse processes are short & perforated by a large canal for the transmission of vertebral artery & vein.
Of the Dorsal Vertebra

Gen. or common characters. Intermediate in size between cervical & lumbar. Their bodies are more cylindroid than those of neck & the most of them are marked laterally on the upper & lower margins where they articulate with heads of ribs.
Of Lumbar vertebra. Their bodies are larger than those of the other true vertebra.

Sect 3 - on the Uses of the vertebral column

It performs 3 important offices in the animal economy. It affords a secure lodgment to spinal marrow. It is a line of support to trunk & is the centre of all its movements. It performs 4 functions. It extends lateral bending circumduction & rotation.

Sect 4th - Of the Os Innominata

Situated 1 at either side of sacrum & constitute lateral & anterior parts of pelvis

Divided into Ilium Ischium & Pubis

Os Ilium - Forms all ^{the} upper rounded part of the os innominata - haunch bone

Os Pubis constitutes fore part of os innominatum - It is composed by a body & 2 large branches Os Ischium Forms posterior inferior portion of os innominatum

Section 7th - on the Mechanism of Pelvis

It has an important part in the several actions of standing & locomotion besides its usefulness in giving support to the viscera of abdomen & contains ~~some~~ some of organs of generation

Section 8th Of the Thorax

Thorax is upper part of trunk & is formed by dorsal vertebra behind, Sternum before & by the ribs with their cartilages at the intermediate spaces

Of the Ribs

Section 11th of the Mechanism of Thorax

It performs 2 very important offices in the animal machine 1st is to contain & protect the organs of circulation & respiration 2nd to assist in the functions of respiration & perhaps that of circulation

Chapter 2nd Of the Head head is placed upon upper extremity of vertebrae & column
Head is divided into cranium & face

Section 1st of the Cranium

Chapter 3rd General Considerations of Head

Sect 1 - Of the osseous

Cartilages wherever placed may be recognized by their whiteness by their flexibility by their great ^{elasticity} & by a hardness only short of that of the bones

Composed of gelatine 44.5 water 55 phosphate lime 1.5

Muscles may be known by their redness, softness, irritability, contractility, & by their being formed of long parallel fibres
muscles composed of fibrine, albumen, gelatine, extractive matter, the phosphates & soda

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Tongue is the principal organ of taste & is also concerned in mastication & in ^{speech}

Volume 2 Organs of Assimilation

Chapter 1

Of the Abdomen Generally

Viscera ^{contained in cav. of abdomen} are of 3 kinds. One kind is engaged in digestion & assimilation, another in secretion & excretion of urine & 3rd in generation.

Chapter 2nd Of Peritoneum & serous mem. gen.

Section 1. of Peritoneum

It lines sides of abdomen & cov. viscera generally. In man it is a complete sac. None of viscera can be said to be within the cavity of peritoneum. In the undistended state of the bladder the peritoneum reaches to its neck.

Section 2 - of the Omenta epiploon & Caud

1 Omentum minus or the Hepatic Gastroicum extends between liver & stomach.

2 Omentum majus or Gastro-Colicum is connected at 1 end all along the greater curvature of stomach & by the other along the transverse part of colon. As it commences by 2 laminae so it is continued throughout in same way. It is commonly found more or less spread on the front surface of small intestines. As omentum majus consists of 2 laminae in its whole extent it is clear that it resembles a flattened bag lined by another bag.

3 Omentum Colicum may be considered ^{as a continuation} of the omentum majus along the ascending & a part of the transverse colon. Consists of but 2 laminae in all.

4 Omentum Gastrosplenicum is the left plate or margin of the omentum majus extended from the great end of the stomach to the spleen.

Sect. 3 General Anatomy of Serous membranes

General condition & properties. They are for the most part thin & strongly resemble compressed cellular membrane. They invariably assume the form of perfect sacs.

Chapter 3 Of Chylopoietic viscera

Section 1 of the Stomach

It is a hollow viscus sit in epigastric region. 2 Orifices = Cardia & Pylorus. 1st is at left & most superior part but removed to the distance of 2 inches or more from left extremity. Pylorus points upwards & to the left side but is by the whole thickness of liver lower down than cardia. It is retained in its situation by its continuity with oesophagus & duodenum also by the hepatic-gastric & gastrosplenic omentum. It is in contact above at its lesser curvature with diaphragm the left lobe of liver & the lobulus Spiegelii at its great extremity with spleen at its posterior face with pancreas & at its great curvature with the colon & mesocolon. Its arteries = branches of coeliac are the Gastric the Right & the left Gastro Epiploic & the Vasa Brevia. Veins fol. coarctae & semilunar ganglia of arteries & terminate in vena portarum. Nerves come from par vagum & from peritoneum.

Section 2nd of the Intestinal Canal

30 to 35 ft in length

Small Intestines $\frac{4}{5}$ of length of whole canal diameter about 1 inch Peritoneal ~~coat~~ is complete It is continued afterwards in 2 laminae from the intestine to the lumbar vertebra thereby constituting the Mesentery. The Jejunum & Ileum are strung along the mesentery. They occupy the Umbilical the Hypogastric & a part of the iliac regions. Upper $\frac{2}{3}$ is the jejunum. Small intestine is supplied with blood from upper mesenteric artery. Mesentery is a process of peritoneum which serves to connect the intestine to the posterior parietes of abdomen & extends its connections from left side of 2nd lumbar vertebra to the right iliac fossa. This attachment is about 6 in length.

Of Large Intestine

Mesocolon is a reflection or duplication of peritoneum that fixes the large intestine to the posterior parietes of abdomen.

Composition of mesocolon is precisely the same with that of mesentery.

Chapter 4 of the Assistant Chylific viscera Sect. 1 of Liver

Its whole superior face is in contact with diaphragm - on left it is bounded by spleen & below by stomach & transverse colon behind it are the vertebral column & the ascending ^{veins}. It is 10 in. long 6 or 7 in. wide. Its upper surface is of a uniform convexity. It is unequally divided from before backwards by the suspensory ligament. Anterior margin is thin & is notched where the suspensory ligament begins. Posterior margin is much thicker & has near its middle a broad depression to fit it to the projection of vertebral column. Under surface much more irregular. It is traversed in an anterior posterior direction in a line corresponding with the attachment above of the suspensory ligament by the umbilical fissure which extends from the notch in front to the depression behind. Transverse fissure is situated in the middle of under surface & extends along $\frac{3}{4}$ of the long diameter of ~~liver~~. It begins some what to left of umbilical fissure. It contains vena portarum the hepatic artery & the hepatic duct. Right lobe ^{entirely the transverse fissure} accommodates almost Lobulus Spigelii is placed between the transverse fissure & posterior margin of liver to the right of the posterior end of the umbilical fissure. Lobulus Quartus is placed in front of transverse fissure between the fore end of the umbilical fissure & the gall bladder. Liver is completely enveloped in peritoneum - its reflections to parietes of abdomen form the ligaments of liver. Galciform of suspensory ligament. Right lateral ligament is situated behind & departs from back part of diaphragm to the posterior margin of right lobe. Left lateral lig. also goes from back part of diaphragm

Chapter 1 Of Heart & Pericardium

Tuberculum Loweri is a transverse prominence found about midway between the orifices of the 2 cava ~~and~~ ^{is} occasioned by the continuous structure of the veins meeting at an obtuse angle

Fossa Ovalis is surrounded by an elevated ^{margin} composed of muscular & called its Annulus or the Isthmus of Venuens. Just below fossa ovalis is found the Eustachian valve consisting in a duplication of lining membrane of auricle.

Ostium venosum is a round hole between right auricle & ventricle

Parieties of Right auricle are formed by muscular fibres Muscula Pectinata

Right ventricle

General form is that of a triangular pyramid. It forms the greater part of anterior surface of heart & is about 3 lines in thickness. Anterior face of this cav. is covered

by muscular fasciculi of very irreg. shapes & dimensions = Columnae Carnea

Valve between ventricle & auricle consists in a duplication of lining membrane of ventricle arising uninterruptedly from around ostium venosum at left margin. This valve is called the tricuspid because its loose margin is divided into 3 points or processes.

Opening for pulmonary artery is placed above ostium venosum. Orifice of pulmonary artery is round & about 12 lines in diameter. It is furnished with 3 semilunar valves.

Pulmonary artery immediately after its origin goes upwards & backwards to under part of curvature of Aorta & there divides into 2 trunks.

Left auricle in natural situation of heart is concealed by right auricle & the ventricles. Its figure more square than that of right & into each of its angles is introduced a pulmonary vein there being 2 on each side.

Parieties are smooth externally & internally. At inferior part of the anterior ^{venous} side of this cavity is found the opening between it & left ventricle also called ostium

Left ventricle shape resembles a long ovoidal or conical body.

Internal face is roughened by presence of numerous fleshy columns (Columnae Carnea)

Mitral valve between left auricle & ventricle

Orifice Aorta is furnished with 3 semilunar valves

Nerves of heart come principally from cervical ganglions of sympathetic & fol. ^{coronary} ^{arterio}. It is the contraction of the ventricles which causes the heart to strike against thorax.

Chapter 2 Of the Arteries

Section 1. - The Arteries & the Branches from
its curvature Sept. 1835

Having arisen from superior posterior end of left ventricle its root passes beneath the pulmonary artery & is entirely concealed by it

Arteria Innominate is 1st in its origin from arch in ascending from left to right in front of trachea & behind the transverse vein it crosses trachea very obliquely - length 1 to 2 in
Left primitive carotid arises next

Common Carotid Artery goes up neck to terminate just below corner of os hyoides It lies at side of thyroid gland the trachea the larynx the oesophagus & pharynx in front of transverse process of cervical vertebra has on its outer margin but some what in front the internal jugular v. & the pneumogastric nerve enclosed in same sheath & sympathetic behind At side of larynx carotid is very superficial

Elect 2 of the Carotids & their branches {sella turcica}

Internal Carotid in adult is smaller than external & extends from larynx to It penetrates into cranium through carotid canal of temporal bone

External Carotid extends from termination of primitive carotid to neck of lower jaw

In early part of its course where it is sit. in front of internal carotid & between pharynx & sternum mastoid it is comparatively superficial being only enveloped by its sheath & cov. by platysma myoides & skin branches

1st Superior thyroid artery distributes to larynx & thyroid gland

2 Lingual It comes from external carotid at distance of from 5 to 12 lines above superior thyroid & goes to tongue Ramus Ramulus is the continuation of the lingual it advances between linguales & genio hyoglossus muscles to tip of tongue

3. Facial Ar. arises from 2 or 3 lines above lingual & is spent principally on side of face below eye

4 occipital artery is a very considerable trunk which comes from external carotid opposite to facial & is spent upon integ. on back part of head

When carotid arrives on a line with neck of lower jaw it divides into 2 large trunks 1 of them - Internal maxillary goes to parts within ramus of lower jaw other being smaller

Temporal continues, its ascend through substance of parotid it becomes superficial in front of meatus externus by mounting over root of zygoma it is thus distrib. integ. on side of head

A little below zygoma the middle temporal artery comes off from temporal It perforates the temporal fascia at upper margin of zygoma & is distrib. to temporal muscle

Arteria temporalis profunda profunda 2 in number & arise from internal maxillary

Section 3 - Of Subclavian Artery & its Branches

Each go over the ~~first~~ ^{1st} rib of ~~the~~ ^{its} respective side adhering closely to it
At inner margin of Scaleni Muscles the subclavian gives off a number of trunks to wit: V, I, II, I, III, & I. Mam. & C. Artery

- 1 vertebral & largest branch Immediately after its origin it ascends on the side of spine & enters the canal of the transverse process of the neck at the 6th vertebra
- 2 Inferior Thyroid arises from upper face of subclavian & goes to thyroid gland
- 3 Superior Intercostal supplies the 2 upper intercostal spaces
- 4 Internal mammary

The subclavian artery gets to Armpit between 1st rib & subclavius muscle

of Branches of the Axillary artery

- 1 Superior Scapular
- 2nd External Mammary ^{arteries} arises from axillary between subclavius & pectoralis minor muscle They are 4 principal trunks

a. Thoracica superior & Thoracica longa

- 3 Scapular Artery arises from axillary below shoulder joint

of Branches of Brachial Artery

- 1 Profound artery arises from brachial a little below tendinous insertion of latissimus dorsi
- 2 Small profound artery

Brachial Artery divides into 2 trunks the Radial & ulnar

of Radial is smaller than ulnar & extends from elbow to hand

Branches 1 Recurrens Radialis arises at neck of radius
5. Magna Pollicis a terminating branch of Radial comes from it in the palm of hand just at root of metacarpal bone of thumb

6 Radialis Indices arises at same place with latter runs along metacarpal bone of fore finger & along radial side of same finger to extremity

7 Palmaris Profunda is the 3rd terminating branch of radial artery It crosses the hand between the metacarpal bones & flexor tendons - ~~it crosses~~ Profundus
Ends on ulnar side of Palm by a branch to Arcus superficialis

of Ulnar Artery

Between the aponeurosis palmaris & flexor tendons it forms that curve from the ulnar to radial side of hand called Arcus sublimis or superficialis

Branches of Ulnar 1 Recurrens ulnaris 2 Interossea

4 Dorsalis manus

Sect 4 Branches of the Descending Thoracic Aorta

Bronchial Arteries nutritious vessels of lungs They fol. course of bronchia into sub-^{stance of Lung}

Esophageal Arteries are gen. 5 or 6 small twigs which come successively from it

Intercostal Arteries supply 10 lower intercostal spaces

Section 3rd Of The Branches of the Abdominal Aorta

Phrenic A. 2 in num. 1 for right another for left side of diaphragm
Celiac A. arises immediately below phrenics between the pillars of diaphragm opposite
junction of last dorsal to 1st lumbar vertebra placed between left lobe of liver & superior
margin of pancreas
It divides into 3 branches G. H. & I. Gastric smallest of 3 2nd Hepatic A.
Gen. consid. larger than gastric & inclines towards right side. Splenic largest in all
goes to spleen along superior margin of pancreas
Superior mesenteric arises from Aorta. It is about the same size of Celiac & comes off $\frac{1}{2}$
inch below it. It is distributed to small intestine, & to right side of large I.
Capsular A., the Emulgents & the Spermatices arise from the Aorta between superior &
inferior mesenterics
Inferior Mesenteric arises about 1 in. above division of Aorta much smaller than
superior mesenteric. It inclines downwards to left side & gets between lamina of mesocolon
it then divides into 3 branches called Left colic arteries from their distribution to left
side of colon. Super. Hemorrhoidal artery is lowest & last branch of Infer. mesenteric

Section 6th - of The Primitive Iliacs & their branches

They divide at or near sacro iliac junction into Inter. & Exter. Iliacs

Section 7 of Internal Iliac & its branches

It descends from front upper part of sacro iliac junction to lower part of same articulation

ilio lumbar artery is com. the 1st branch of the hypogastric

Lateral Sacral Arteries Obturator Artery emerges from hypogastric

It passes forwards parallel with brim of pelvis. It gets from pelvis through thyrid
foramen

Middle hemorrhoidal artery varies in its origin

Gluteal & Ischiatic terminate the hypogastric Artery

Gluteal A. issues from pelvis at upper part of ischiatic foramen

Ischiatic A. somewhat smaller than gluteal. It descends between rectum & pyriformis
muscle & issues under lower margin of latter out of pelvis being there placed in front
of sciatic nerve. It goes down on back of thigh between trochanter major & tuberosity
of ischium being at internal edge of sciatic nerve. It sends off in the Pelvis the
internal pudic artery = only a slight degree smaller than Ischiatic. Cavernous artery
of penis may be considered as terminating trunk of internal pudic

Sect 8th Of The External Iliac Artery & Its branches
It extends to Poupart's lig. It descends at superior strait of pelvis along the internal margin of the psoas magnus muscle. In early part of course it is anterior to external Iliac vein it then as it approaches Poupart's ligament gets to its outer margin. It is cov by peritoneum in front. Under Poupart's lig it has the vein at pubic margin & anter crural nerve $\frac{1}{2}$ in. from its Iliac margin at crural arch it sends off Epigastric & the Circumflex of ilium. Epigastric arises somewhat above crural arch. It passes internal abdominal ring at its pubic margin. Circumflex of same size with Epigastric.

Of Femoral Artery extends from crural arch to the perforation for its passage through adductor magnus. In upper $\frac{1}{3}$ of its course femoral artery is at inner edge of rectus femoris & at a short distance from it. Profound Artery the great muscular artery of thigh is but little infer in size to femoral & comes from latter at distance of 1 or 2 in. from femoral arch. It lies behind femoral artery. Branches Exter. Circumflex Inter. Circumflex Arteries. Anastomotica is last branch of femoral. It descends to knee & terminates by anastomosing with internal articular arteries about size of crow quill. Popliteal is continuation of femoral & extends to the spring in the interosseous lig of leg just below head of tibia. Cov. in greater part of its extent posteriorly by popliteal vein & by sciatic nerve the latter being more superficial than vein. Branches 1 Superior ^{Internal} articular artery 2 T. E. A. A. 3 Middle articular. Gen. on a level with aperture in upper part of interosseous ligament. Popliteal artery divides into 2 large trunks = Anter. & Poster. Tibial.

Anter Tibial Runs down front of leg & foot as far as base of metatarsal bone of great toe. Anterior tibial nerve adheres to it in its whole length. Branches 1 Recurrent Tibial 2 Inter. malleolar 4 External 5 Tarsal artery arises somewhat below ankle joint & goes outwards. It is distributed in branches near external ankle & upon outer surface of tarsus. 6 Metatarsal artery It forms a sort of arch at root of metatarsal bones. 7 Dorsal artery ^{of great toe} arises from anterior tibial at root of 1st metatarsal bone. It runs along superior face of 1st metatarsal interval. Anter Tibial at posterior end of 1st metatarsal interval it sinks down to sole of foot & joins exte plantar at this point. Posterior Tibial It extends from head of tibia to insertion of os Calcis. It is accom. at its external margin by poster tibial nerve. 1 Peroneal is 1st branch & nearly as large as continued trunk. It extends on posterior face of leg to external ankle. After having descended $\frac{2}{3}$ length fibula it divides into an anterior & posterior branch. former traverses interosseous lig & descends in front of it.

It is distrib. upon external part of foot near ankle joint. Posterior branch reaches external face of os calcis & is divided into two.
 While Posterior tibial divides in hollow of os calcis into 2 branches = Inter. & Exter. plantar.
 Internal Planter much smaller than other. It terminates at anterior end of 1st metatarsal bone by joining internal digital artery of great toe.
 External Planter is contin. of posterior tibial artery & diverges from internal plantar towards outer margin of sole of foot. Having reached the internal margin of abductor minimi digiti it advances along latter to base of metatarsal bone of 4th toe. It then forms Arcus Plantaris, of which the concavity is ^{behind} ~~inward~~ & inward. The 4 digital arteries arise from arcus plantaris.

Chapter 3 of the Veins

Section 1st of Veins of Head & Neck

Facial vein observes course of artery. Name v.

Superficial Temporal vein corresponds with temporal artery. Temporal veins formed by junction of Middle & superficial temporal vein. It penetrates with the artery through substance of parotid glands. On issuing from glands becomes External Jugular.

Exter. jugular contin. of temporal. It descends on neck almost vertically between Platysma myoides & sternomastoides. Just behind clavicle at external margin of Sternomastoides it opens into subclavian vein.

Internal Jugular extends from base of cranium to internal margin of 1st rib. It descends in front of transverse processes of vertebra of neck. Hav. got behind sternal end of clavicle it is joined at inner edge of Calenus anticus by subclavian ^{venae innominate} Vena Innominate or Brachio Cephalic v. formed by junction of subclavian & Internal Jugular.

Vena cava Superior arises from junction of 2 vena Innominate. It begins between cartilage of 1st rib on right side & the arch of Aorta & descends to superior posterior part of right auricle. 3 in. long. Superior $\frac{2}{3}$ is free it is in contact on right with pleura & on left with aorta Innominate. Remain. portion is invested by pericardium & has aorta on its left anterior face.

Vena Azygos placed in posterior mediastinum on right anterior margin of ^{vertebra} ~~cava~~ & discharges itself in making an arch forwards over root of right lung into descending.

Section 2. - of the Veins of the Upper Extremity

Superficial veins lie between skin & brachial aponeurosis.
 Cephalic v. is trunk which comes from thumb & fore finger. It ranges along the ^{axillary} anterior & radial margin of forearm. Within 8 or 10 lines of clavicle it dips down to join

Basilic is larger than cephalic Median vein ascends in front of p. vein
It divides into 2 a few inches below bend of arm
Axillary v. results from union of basilic with brachial It is below & in front of
axillary artery

Section 3 veins of Lower Extremity
Femoral vein is at interior face of artery

Chapter 4th Of the Peculiarities in the Circulatory
System of Fetus September 14 1835
Peculiarities may be studied under 2 heads those which arise from want of respiration
& those which are required for its nourishment Peculiarities of 1st order are
situated in thorax & those of 2nd in abdomen

Chapter 5th Of the General Anatomy of the Absorbent
System
The absorbents remove the effete parts of ~~system~~ body & make room for the deposits of
It is also called lymphatic system
The Lymphatic vessels are small pellucid, transparent cylindrical tubes
The absorbents from all parts of body are finally united into 2 trunks one on left
& other on right side of trunk of body & which discharge their contents into venous system
each on its respective side at junction of internal jugular & subclavian vein

Of the Lymphatic Glands September 14th 1835

They are flattened ovoidal bodies of a reddish ash colour

Section 8th of Thoracic Ducts

Left Thoracic duct begins about 2nd or 3rd lumbar vertebra in front of its body It
ascends in front of dorsal vertebra ~~in front of~~ between Aorta & Vena ^{precava} ~~Azygos~~ & ^{osophagus}

Commonly it is about the size of a large crow quill

Right Thoracic Duct is not more than an inch long & descends to empty itself
as mentioned into the junction of the right internal jugular with right subclavian

Book 9th Part 1st

Of the General Anatomy of the Nervous System

Nervous System Sept. 14th 1835

John Wiley

Central portion of Nervous system is composed of 2 kinds of substance { Cerebrum & Medullary }
Medullary substance most abundant also harder - has a fibrous appearance
Surface of cerebrum cerebellum is formed by cineritious matter
Medullary matter is so arranged that it forms a continuous whole
Nerves are formed by parallel anastomosing fascicula of fibres
Sheath of nerves or neurilemma is continuous at its central extremity with the pia mater
There are 3 modes by which the nervous fascicula unite with one another, anastomosis, plexus & ganglion
Anastomosis is the junction of the filaments either of same nerve or of diff. nerves
Plexus is an anastomosis on a larger scale & occurs between the larger fascicula of same nerve or of diff. nerves
Ganglions are knots which occur on course of nerves
Nervous system is the seat of intelligence & also extends its physical influence to every { part of body }

Book 9th Part 2nd On the Special Anatomy of the Central Portion of the Nervous System

Chapter 1st of Spinal Marrow & Its membranes

Section 1st - of the Spinal Marrow

Extends from 1st vertebra of neck to 1st or 2nd vertebra of loins

Spinal Marrow sends out from its sides 31 pairs of nerves { 5 L 5 S }
8 cervical & 12 d

Every spinal nerve is formed of 2 Roots Posterior root larger than anterior

With the exception of the ganglions { of sacrum } which are in the spinal cavity of that bone these bodies are placed in the intervertebral cavity foramina

of the Ligamentum Denticula

These bodies are narrow semi-transparent bands which are placed on either side of medulla spinalis between pia mater & tunica arachnoidea

Section 3 - Of the Blood vessels of medulla spinalis

Arteries of spinal marrow are derived from the vertebals Intercostals Lumbar & Visceral { arteries }

Chapter 2nd Of the Encephalon or Brain

Encephalon as a mass consists of 4 distinct portions = Medulla oblongata - which is a continuation of spinal marrow, or its superior part the Protuberantia annularis or Pons Varolii which is placed at upper extremity of medulla oblongata the Cerebrum & cerebellum

Seet 1. of Dura Mater

It consists of 2 laminae

Processes of Internal lamina =

Falx cerebri separates the hemispheres of the brain

Tentorium Cerebelli is placed transversely across posterior part of cranium & separates the cerebellum from posterior lobes of cerebrum

Falx Cerebelli extends in a middle line from under surface of tentorium to posterior margin of occipital foramen

Of the Sinuses of Dura Mater are large cavities placed between the laminae of Dura mater & receive the blood from the veins of pia mater

1 Sinus Longitudinalis Superior extends along whole base of falx cerebri

2 Sinus Lateralis are situated in base of tentorium

3 S. Longitudinalis Inferior sit. in falx cerebri just above its concave edge

4 S. Quartus is sit in tentorium where latter is joined by Falx cerebri

Tunica Arachnoidea passes into ventricles of brain by same apertures that pia mater does. It secretes a sort of halitus or lymph

Section 2 - Of the Medulla Oblongata

It extends from superior margin of 1st cervical vertebra to middle of basilar process of occipites 1 in. long & 8 lines wide at its base. On either side of under surface is an oblong body called Corpus Pyramidalis which is a continuation of the cord that decussate from opposite sides of spinal marrow

Eminentia Olivares are 2 bodies one on either side at exter. margin of Pyramidalis about 7 lines long

Corpora Restiformia are placed at lateral/poster. margins of medulla oblongata

Length 1 inch their lower extremities are in contact they then diverge & advance forwards & upwards to terminate above in cerebellum. It is formed of medullary matter & is a continuation of posterior end of medulla spinalis. Superior face of medulla oblongata is excavated between corpora restiformia & Calamus scriptorius

Section 3 - Protuberantia Annularis (Nodus Cerebri, Pons Varolii)

Is the large projecting body placed near centre of base of encephalon at top of medulla oblongata & upon junction of body of sphenoid bone with basilar process about 1 in in diameter 366

Seet. 4 of Cerebellum placed in poster. fossa of cranium

It is connected with pons varolii by a trunk of medullary matter on each side = Crus of Cerebellum

It is convex above & below

Arteries of vicesseus arises from cerebellum just under anterior part of base of monticulum & runs obliquely upwards to terminate in testes. Lobulus Amygdaloides is at bottom of root of crus cerebelli. Arteries Nervi Pneumogastrici at same place

Section 5th of the Cerebrum

It weighs about 3 pounds By separating hemispheres a broad lamina of medullary matter is to be seen passing from side to side = Corpus Callosum which connects the 2 hemispheres together

2 anterior lobes are completely separated by longitudinal fissure which extends to base of cranium; the same is case with posterior lobes

Middle lobes have intervened between them the annular protuberance & the crura cerebri Anter. lobe marked off from middle by fissure of Sylvius

Surface of the convolutions of cerebrum are cov. by cineritious matter of about a line in thickness

Succession of parts in structure of Cerebrum begin. at base

In advance of Pons varolii & springing from it there are 2 divergent medullary trunks which run forwards & are lost in medullary substance of cerebrum = crura cerebri upon upper surface of which are 2 protuberances, posterior is thalamus nervi optici & the anterior is corpus striatum

The under & lateral portions of the hemisphere consist in diverging filaments arising out from crura cerebri

Upper portion & the corpus callosum consist in filaments which arise in adjoining convolutions & collect towards middle line of corpus callosum

Between the 2 orders of fibres there is a horizontal cleft or interval = lateral ventricle

Crura Cerebri are about 8 lines long They mutually diverge begin. from roots & are sepa. by a deep fissure = 3 ventricles of brain

Eminentia Mammillares or Corpora Albicantia 2 small bodies sit near anterior extremity of crura cerebri on internal faces & almost in contact with each other

Infundibulum placed immediately before eminentia mammillares It is a flattened conical body $\frac{1}{2}$ in long

Pituitary gland is sit. in sella turcica point of infundibulum adheres to it

It is oval & 6 lines in diameter Suber cinereum is a portion of under surface of crura

Thalami optici 2 in num. 1 for either side They are sit. on superior face of crura cerebri $\frac{1}{2}$ in long & 8 or 10 lines broad & deep 375

(ii) They adhere to each other by a layer of cineritious substance called commissure

Corpora Striata are sit. before thalami optici at bottom of lateral ventricles Length 2 in. & 8 lines broad at front part but taper very gradually to a point behind

They are about 4 lines apart in front & are separated there by septum lucidum but poster. extremities diverge so as to admit thalami optici between them

Surface is cineritious Corpus Striatum is placed in the angle formed between the internal margin of corpus striatum & external of thalami optici

It is a small medullary body not a line in length breadth

Corpus Callosum This body unites the medullary mass of 2 hemispheres

Fornix immediately below Corpus Callosum. It is a triangular body of the ^{its base} medullary matter base of which is behind & apex in front. Length 12 in. & 1 in. wide at Septum Lucidum is a partition placed vertically in middle line of brain & extends from corpus callosum above to fornix below. It is formed by 2 laminae placed side by side. There is an interval between them = 5th ventricle.

Pineal Gland is placed between posterior margin of fornix upon the superior of the tubercula quadrigemina on the nates. From its base there proceeds a transverse lamina of medullary matter called the Posterior Commissure of brain. Tubercula Quadrigemina (or the Nates et Testes) are sit. on superior face of Crura cerebri & just behind thalami nervorum optico-rum. Larger or upper pair is Nates the lower pair the Testes.

Of ventricles of Brain 4 in number. 2 called lateral are placed 1 in either hemisphere of cerebrum a 3^d is between the 2 thalami & the 4th under cerebellum. 2 lateral ventricles are horizontal cavities or fissures in very centre of hemispheres being the interval between the diverging & converging rays. Separated only by septum lucidum are cov. by corpus callosum & have fornix thalami optici & corpora striata for a floor.

3rd ventricle Upon removal of velum Interpositum or its elevation the whole surface of thalami optici is exposed. 3rd ventricle is also brought into view being placed between thalami optici bounded below by pons varii crura cerebri & the eminentia mammillares & above by the velum interpositum & the fornix. Anterior commissure is a body of medullary matter which passes from 1 hemisphere to other through anterior margins of thalami optici. 3 commissures are found in 3rd ventricle anterior commissure - posterior & left com. or Commissure medialis being a ciceritious adhesion of thalami.

4th Ventricle It is an irregular triangular cavity the base of which is downward. It is bounded in front by tuber annulare & the medulla oblongata behind by fundamen- portion of cerebellum & above by valve of brain & tubercula quadrigemina.

Section 6 - Of the Nerves of the Encephalon

Olfactory Nerve is sit. on under surface of ant. lobes of brain near the fissures that separate the hemispheres. This nerve arises by 3 medullary fasciculi or roots from base of brain at corpus striatum in the fissure of Sylvius where anterior & posterior lobes join each other.

Optic Nerve is about same size with trigemini. It arises by a broad flat root one portion of which comes from posterior end of thalami optici & other from the testes.

Optic nerve winds forwards under crus cerebri adhering to it & inclining towards its fellow
Having reached the under ant. part of 3rd ventricle adheres to its fellow
The 3rd Pair (Nervus motor oculi) arises from internal face of crus cerebri about 2 lines in advance of ant. margin of tuber annulare The nerves of opposite sides are in contact for some distance It proceeds from its origin towards external margin of cavernous sinus & penetrating into orbit through sphenoidal fissure is distributed to most of muscles of eye ball

4th Pathetic Nerve is smallest which comes from Encephalon not larger than sewing thread It arises by 2 filaments & roots from upper ant. face of valve of brain just below tentorium It appears on base of brain between cerebellum & poster. lobes of cerebrum It reaches orbit of eye through sphenoidal fissure & is distrib. to super. oblique muscle
5th Pair Nervus trigeminus is 1 of largest ^{among these} that proceed from base of brain & emerges from sides of Pons varolii just where it is continuous with crus cerebelli Composed of 3 roots Gen. distribution is to orbit face & tongue

6th Pair (Motor oculi Externus) It arises from the base or upper extrem. of corpus pyramidale under posterior margin of tuber annulare Passing through cavernous sinus it gets into orbit by sphenoidal fissure & is spent on adductor oculi muscle

Facial Nerve (Portiodura) is placed in front & above auditory nerve It arises by 2 branches Larger 1 within & above the other arises from medulla oblongata at most super. part of corpus restiforme 2nd branch arises from medulla oblongata Proceeding outwards & backwards they reach meatus auditorius internus Emerges as a single trunk at stylo-mastoid foramen & are distributed upon snus & skin of head

Auditory & facial compose 7th pair

Auditory nerve (Portio Mollis) arises in part from medullary stria on surface of calamus scriptorius & partly from corpus restiforme Distrib. to labyrinth of ear
Glosso-Pharyngeal Nerve or Eighth pair arises from poster. end of medulla oblongata Its filaments 5 or 6 in number come from ant. margin of corpus restiforme It runs outwards & backwards to foramen lacerum posterius

Its general distribution is to tongue & pharynx as its name implies
Pneumogastric Nerve (Eighth pair) arises from corpus restiforme of medulla It goes outwards & backwards to foramen lacerum posterius After getting out of cranium it adheres by a close strong cellular substance to glosso-pharyngeal & to accessory nerve Distrib. to organs of respiration & stomach

Accessory Nerve (Eighth pair) arises from posterior fasciculus of medulla oblongata & also from posterior fasciculus of nucleus ~~Spinalis~~ ^{Spinalis} Trunk passes throu foramen lacerum posterius Gen. distribution is to muscles & integ. of neck
Hypoglossal Nerve (9th pair) arises from medulla oblongata It springs from the fissure which separates from corpus pyramidale the crus diversum

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Hypoglossal Nerve (9th pair) arises from medulla oblongata It springs from the fissure which separates from corpus pyramidale the corpus olivare

(muscles of tongue)

It proceeds through anterior condyloid foramen of occipital bone Gen. distribution is to

Sect. 7 - Of the Arteries of Brain

Are derived from 2 internal Carotids & from 2 vertebrials

Internal Carotid at anter. clinoid process it sends off ophthalmic artery
Distrib. to brain in pl. order Arteria Communicans Posterior is directed back

wards & inwards & runs into corresponding trunk of basillar called poster cerebral
Arteria Clinoides next branch

Arteria Callosa or anter. cerebri is detached from internal carotid opposite to last
Just before division of optic nerves a transverse branch passes between it & its
fellow = Arteria Communicans Anter.

Internal carotid trunk is now continued as Arteria ^{Cerebri} Media It is directed outwards
& engages in fissure of sylvius

Vertebral Artery branch of subclavian It passes into cranium through
occipital foramen It is 1st on side & then on under surface of medulla oblongata

At poster. margin of tuber annulare they coalesce = basilar artery

Basilar A. is on middle line of tuber annulare & extends from its poster. to its anterior margin

A. Super. Cerebelli goes outwardly from its origin just behind anterior edge of ^{tuber} annulare

Posterior Artery of Cerebrum is termination of basilar It proceeds abruptly outwards

Book 9th Part 3 Senses

Chapter 1 of the organ of Smelling or the nose
of Nerves of Pituitary Membrane It is furnished with nerves from
Sources from olfactory & from 5th Pair = come from 1st & 2nd branch of trigem.
of Blood vessels of Nose

Internal Maxillary Artery sends through Sphenoid Palatine foramen a large branch

Chapter 2nd Of Eye & Its Dependencies

Sect 1 - of Axillary parts of Eye

Eyelids are placed at anter. orifice of orbit

Lachrymal Caruncle is placed at inner canthus of eye It is a red coloured tubercle

Semilunar Palpe or Fold is sit. immediately at outer margin of caruncle

Lachrymal sac is placed at internal canthus of orbit

Section 2nd Of the Ball of the Eye It is sit within
anterior $\frac{1}{2}$ of orbit

Tunics, or Membranes of Eye-Ball

Sclerotic Coat forms about $\frac{2}{3}$ of exterior investment of eyeball

Cornea fills up aperture at fore part of sclerotic

Choroid Coat is placed immediately within circumference of sclerotic & is of equal extent

The anterior opening of the Choroid is bounded by ciliary ligament & iris

Internally it is spread over the retina but does not adhere to it

is closely fastened at its anterior margin to corresponding part of sclerotic by a ring which surrounds it of a short compact cellular tissue = ciliary ligament is from a line to 2 in breadth The iris is set in front margin of ciliary ligament

Choroid coat always appears when unimpacted of a very dark ^{brown} ~~black~~ colour arising from a black point (Pigmentum nigrum)

In regard to structure the choroid coat is thin soft & easily lacerated

The arteries are branches of ophthalmic & are called ciliary

Iris is a circular plane placed at front of choroid & having in its centre a round opening called the pupil Posterior face of iris sometimes ^{called} uvea is covered in great abundance with pigmentum nigrum

Its ant. surface is the seat of the colour which characterizes every individual's eye

There are but 2 of these colours, light blue & orange the predominance of 1 or other of which, assisted by the dark ground on back of iris gives the cast of hue to the eye

Retina forms 3rd coat of eye & lines internal face of choroid almost in its whole extent (texture of Retina is extremely soft & pulpy)

Humours of the Eyeball

Vitreous Humour occupies with the exception of a very small part just behind iris the whole space posterior to latter 2 parts compose the vitreous humour

The Vlyaloid membrane & a thin fluid near circumference of lens it divides into 2 lamina 1 goes before capsule of lens & the other behind it

The lens or Crystalline Humour is placed immediately behind the pupil

Aqueous Humour occupies the space which is between the anterior face of Lens & poster. face of Cornea This space is unequally divided by the iris into 2 chambers Aqueous humour is furnished with a capsule

Chapter 3 of the Ear

The organ of hearing is placed principally within petrous portion of temporal bone & consists in External Ear the Tympanum & the Labyrinth

Section 1 - of External Ear

Section 2nd - of the Tympanum is the middle portion of the organ of hearing

Its depth is about 3 lines its antero-posterior diameter about 6 & its vertical diameter ^{rather more}

surface.

Floor of the tympanum on the side next to the labyrinth presents an unequal surface. In its middle is a well marked rising the Promontory Foramen ovale or Fenestra ovalis is just above Superior margin of this prominence

At poster. infer. part of promontory is another the Foramen Rotundum & in dried bone leads to the cochlea Eminentia Pyramidalis is a small conical eminence projecting from poster. part of tympanum - At fore part of tympanum is the Eustachian Tube There are 4 bones in Tympanum They form a chain & end is fastened to membrana tympani & other end rests on foramen ovale

Section 3 of Labyrinth is placed on inner side of tympanum The bony labyrinth consists of 3 portions The Vestibulum the Semicircular Canals & the Cochlea

Vestibulum is cav to which foramen ovale leads It with Cochlea occasions the protuberance into tympanum known as promontory It has 5 orifices besides foramen ovale 5 at poster. part leading into semicircular canals 1 anter. leading into upper scale of Cochlea & last is aqueduct of vestibule

Semicircular Canals are at poster. extremity of vestibulum

Cochlea forms fore part of Labyrinth & resembles very strongly the shell of a common snail Its base is the bottom of meatus auditorius internus & its apex is directed towards ear of tympanum. It consists in a conical tube wound spirally twice & a half around a column of bone termed Modiolus Tube is divided in its length by laminae spirales Inferior compartment is large & communicates at its base through foramen rotundum with tympanum it is therefore called Scala Tympani other compartment communicates at its base with vestibulum = Scala Vestibuli

Of the Membranous Labyrinth

Consists in 3 semicircular canals nearly filling up the cavities & in 2 sacs contained in vestibule Semicircular ^{membranous} canals They terminate by both extremities in sac of superior part of vestibule

Of the Aqueducts of the Ear

The Aqueducts of Edwinn are 2 small canals which go through petrous part of temporal bone from Labyrinth There is 1 for vestibule & 1 for Cochlea Aqueduct of vestibulum goes inwards & opens on posterior face of petrous bone behind meatus internus

Section 4 - of the nerves of the organ of hearing They come from 3 sources 1st Auditory nerve 2 Portio dura 3 Trigeminal or 5th pair

Book of the Part 4

Special Anatomy of the Nerves September

Chapter 1. of the Nerves of Encephalon Sect 3

Nervous Motor oculi or 3rd pair

Lenticular Ganglion is sit on outer side of optic Nerve in orbit 2 nerves concur to form it } branch of motor oculi & 1 from ophthalmic branch of trigeminus

Section 4th - Nervous Trochlearis or 4th pair

Distribⁿ upon superior oblique muscle

Section 5th Nervous motor Externus or 6th pair

Having got into cavernous sinus is placed there at external side of Internal Carotid V is here joined by Sympathetic It enters orbit through sphenoid fissure. It penetrates into substance of rectus Externus muscle & is entirely distribⁿ upon it

Section 6th of Nervous Trigemini

It having formed the ganglion of Gasser on side of petrous bone then divides into 3 large trunks foremost ophthalmic nerve 2nd Trunk is Superior maxillary & 3rd is inferior maxillary Nerve

Ophthalmic nerve or 1st branch smaller than other 2 branches & comes from superior part of Plexus Gangliformis It penetrates orbit through sphenoid fissure While engaged in sphenoidal fissure it divides into 3 branches the Nasal, the Lacrymal & the Frontal

Second branch of Trigemini arises from middle of Plexus gangliformis It gets from cranium through ^{foramen} sphenoid bone It then divides into 2 trunks The Infra-orbital & the Pterygo-

The Infra-orbital enters infra-orbital canal Pterygo-palatine Nerve descends to outside of sphenoid palatine foramen & there forms the ganglion of Meckel or sphenoid palatine ganglion

Third Branch of Trigemini is largest of the 3

It arises from poster. infer. part of ganglion of Gasser It emerges from cranium through foramen ovale of sphenoid bone & then commonly divides into 2 branches Anterior & other posterior

Posterior branch of inferior maxillary is divided into the superficial temporal inferior dental & the lingual nerves

a. Lingual Nerve descends in course with inferior dental but in advance of it & diverging slightly It passes towards side of root of tongue It is finally spent upon side & tip of tongue

120 pae.

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a. Lingual Nerve descends in conn. with inferior dental but in advance of it & diverging slightly It passes towards side of root of tongue

It is finally spent upon side & tip of tongue

Section 7th - Nervus Facialis

It emerges at stylo mastoid foramen. It penetrates downwards & forwards into substance of parotid gland where it is divided into a number of branches. It is distributed to side of face in radiating clusters or columns of filaments called the temporo-facial, the buccal & the cervico-facial.

Section 8 - Nervus Hypoglossus (Nervus Hypoglossus, Lingualis)

Having arisen from medulla oblongata & escaped from cranium through anterior condyloid foramen adheres closely for an inch to pneumogastric nerve. It descends between external carotid & internal jugular veins. It finally ascends to tongue being covered & concealed by mylo-hyoides muscle. It is only intended to excite the muscular movements of tongue.

Lingual branch of trigeminus excites taste.

Section 9th - Nervus Acciporius arises from cervical medulla & medulla oblongata is directed upwards to posterior foramen lacerum in company with Pneumogastric or par vagum. Near its exit it is divided into 2 fasciculae.

Section 10 - Nervus Glosso Pharyngeus

It is conducted through base of cranium in front of Pneumogastric. On issuing from poster. foramen lacerum it is separated from Pneumogastric by inter. jugular vein. It fol. direction of Stylo-glossus muscle to root of tongue. Some of its branches go to integuments of base of tongue & may be traced to mucous membrane of soft palate. Others go to muscles of tongue.

Section 11th - Nervus Pneumogastricus.

At its exit from cranium through poster. foramen lacerum in front of internal jugular is closely united to hypoglossal. Glosso Pharyngeal & acciporius nerves.

It assumes a position between internal carotid & inter. jugular or vertebral artery ^{these}. It maintains this position to root of neck. In getting fairly into cavity of thorax it is directed backwards & downwards towards poster. face of bronchia between it & pleura. It then abandons bronchia & applies itself to oesophagus & fol. it through diaphragm to stomach. Branches which it sends off go to neck viscera of thorax & those of abdomen.

A. Cervical branches

Super. Pharyngeal nerve spent principally upon middle constrictor.

Super. Laryngeal arises from ganglioniform plexus.

Inferior Laryngeal nerve (Recurrent) is a considerable branch. It winds around the subclavian artery. Having got behind the artery it then ascends towards larynx on side of trachea covered by com. carotid.

10. Thoracic Branches

^{branches}
In abdomen Filaments are sent from each nerve which form a plexus around cardiac orifice of stomach. Right nerve is then divided into many branches some are distributed on posterior face of stomach others go along lesser curvature others go behind the stomach to join the solar plexus

Chapter 2nd of Sympathetic Nerve

This nerve consists in a series or chain of ganglions extending from base of cranium to lower end of sacrum. They are placed on the lateral parts of bodies of vertebrae with exception of neck there is a ganglion for each intervertebral space

Of the Cardiac Plexus of the Sympathetic

is sit. between the arch of aorta & the lower part of the trachea & bronchia & extends from the division of the Pulmonary artery to commencement of ^{arteria innominata} ~~subclavia~~. It is formed almost wholly from branches sent by 3 cervical ganglions of Symp. of each side. From it arise all the nerves which go to heart

Of Thoracic Ganglions of Sympathetic 12 in num. & are

placed on or near the heads of the ribs at commencement of each intercostal space & are only cov. by pleura. Among these internal branches there are several which concur to form the Splanchnic Nerves of which there are 2 the great & small

Great Splanchnic arises by filaments from 5th to 9th or 10th thoracic ganglion inclusively 1 or more filaments come from each ganglion. They are cov. by pleura & unite successfully into a trunk about 11th dorsal vertebra. It penetrates into cav. of abdomen & divides into 2 or 3 fasciculi. On each side of aorta there is a large ganglion formed by an assemblage of 2 or 3 smaller ones = semilunar. In it those fasciculi terminate

Small Splanchnic derived from filaments from 10th & 11th Thoracic ganglions. In abdomen it divides into 2 branches upper branch joins great Splanchnic lower descends to join renal plexus

Of Solar Plexus formed of semilunar ganglions. It extends from Celiac artery to lower margin of emulgent. This plexus seems to exist for aorta as all the divisions which it sends off follow exactly the branches of the ^{arteria} ~~arteria~~

Of the Lumbar Ganglions of the Sympathetic 5 in num. & are placed anteriorly on the sides of the bodies of the vertebrae

Of the Sacral Ganglions of the Sympathetic there are generally 3 which may be readily found sometimes 4 or 5. From these ganglions many branches pass forwards to the hypogastric plexus which is formed by them by inferior mesenteric plexus & by a great many filaments from lower sacral nerves

Chapter 3rd of the Nerves of Medulla Spinalis

Section 1 - Of the Upper 9 Spinal Nerves

They are spent upon neck upon upper extremities & upon diaphragm
of Sub occipital N. one of smallest that proceeds from medulla
It goes out between occiput & 1st vertebra It divides into 4 smaller & posterior, fasciculus
of Cervical nerves 7 in num.

1st Cervical nerve ^{Posterior trunk} is largest & goes directly backwards Its filaments distrib to
many of muscles &c Anterior trunk

2nd Cervical nerve 3rd Cervical Nerve

3 preceding cervical nerves form by their anastomosis with each other a plexus
Phrenic Nerve

Arises from ^{union of} anterior fasciculus of the 2nd & of the 3rd cervical nerves & is assisted gen.
by 2 or 3 filaments from upper part of brachial plexus It descends vertically
on the humeral side of internal jugular vein at some distance from it
It is distributed to diaphragm

Of the 4 Inferior Cervical Nerves

Posterior Branches reach splenius & trapezius to which & integ. of Neck they are distributed
Anter. Branches are large They appear on side of neck between scalenus anterior
& medius muscles They each detach filaments to sympathetic They then
form the brachial plexus

Of Brachial plexus & nerves of upper extremity

Brachial plexus ^{from} by junction of 4 inferior cervical nerves & 1st dorsal
It extends from scaleni muscles to axilla This intertexture surrounds the axillary
artery Nerves which proceed from Axillary Plexus

Scapula Thoracic Axillary 2 cutaneous Radial Ulnar & Median

1 Nerve Scapularis is a small branch com. from upper part of plexus

2 N - Subscapularis There are gen 3 of them Each 1 has its peculiar root
from ^{central part of} axillary plexus

4 Nerve Thoracica 4th Nerve axillaris or circumflexus comes from
inferior part of plexus

5 N - Cutaneous Intermuscular arises from lower
part of axillary plexus

7 N - Radialis or Musculo Spiralis

arises from upper portion of brachial Plexus It is a large trunk which winds
spirally around humerus There are 3 principal trunks afterwards ~~from this nerve~~

6 Nerve Medianus descends the arm at inner edge of biceps muscle
along anterior surface of brachial artery it crosses lower part of brachialis internus & is beneath
^{the aponeurosis of biceps}

It interspaces of hand under lig. of wrist

1st Nerve Ulnary comes from lowest section of brachial plexus

It descends along the internal anterior part of triceps muscle At elbow it is behind internal condyle

Section 2nd of the Thoracic Spinal Nerve

The common trunk divides into an anterior & posterior branch

Posterior branch goes backward between the transverse process of corresponding vertebra

Anterior branches correspond with the intercostal spaces of the ribs

Section 3rd of the Abdominal Spinal Nerve

There are 5 lumbar & 5 sometimes 6 sacral nerves on each side

The anterior fasciculi of these nerves form a plexus which extends from upper part of loins to lower part of sacrum = Plexus Cruralis posterior fasciculi much smaller

Plexus Cruralis divided into plexus Lumbalis formed by 4 superior lumbar nerves & the Plexus Ichiadicus formed by last lumbar & sacral nerves

Lumbar plexus concealed by Psoas magnus muscle From it proceed 3 principal trunks Upper (Cruralis Anterior) is of considerable size & goes to skin & muscles of lower extremity Middle (nervus obturator) not so large

Superior formed by a whole of 5th & a fasciculus from 4th lumbar nerve joins upper part of sciatic plexus impelling

Abdomino Crural Branches are most com. 3 in number & come from 2 upper lumbar & 1 sacral nerve

Spermaticus Externus arises from upper part of plexus distrib. to Spermatic cord

Cruralis Anterior arises from middle nerve of lumbar plexus at 1st it is beneath Psoas magnus muscle it then gets to its outside & passes from abdomen under Poupart's lig. about 2 inches from outside of femoral artery

Nervus Obturatorius is derived from middle of lumbar plexus also

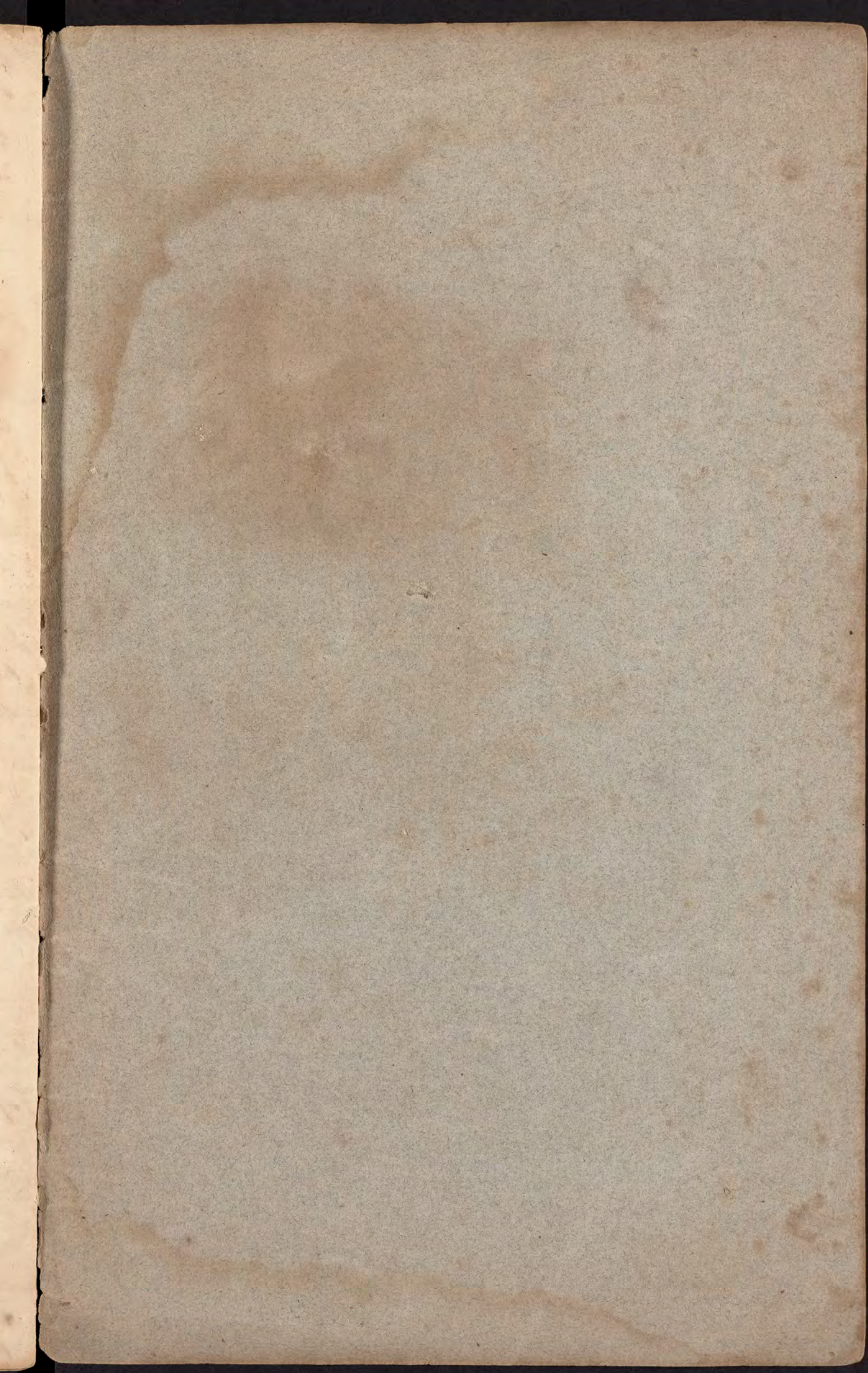
Sciatic Plexus (Plexus Ichiadicus) formed by union of last lumbar with 4 upper sacral nerves It is sit. at side of rectum before pyriformis muscle Anterior branches of sacral nerves much larger than posterior 3rd & 4th assisted by sympathetic from hypogastric plexus Branches of Sciatic plexus

Nervus Ichiadicus or Great Sciatic is the com. trunk formed by sciatic plexus It passes at equal distance between Tuberosity of Ischium & trochanter major about 2 way down thigh It divides into Popliteal or Posterior Tibial & Peroneal

Popliteal continues straight downwards to back & middle of knee joint

Peroneal Nerve divides at head of fibula into Peroneus Externus & Tibialis

Anterior Tibial Nerve accom. anterior tibial artery Posterior Tibial or Popliteal placed between skin & popliteal vein It divides in hollow of os calcis into Exter & Inter





WILLIAM TELL.



Heroic TELL! whose steady eye and hand
Obey the tyrant *Gesler's* fierce command:
Loud twangs the bow, the arrow whizzing flies
With sure success, and gains the promis'd prize.
So those, who in their studies strive t' excel,
Shall fame and useful knowledge gain, like TELL.

